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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/591,565	06/09/2000	Yoichi Kato	KAM1-BL27	3371

7590 05/10/2002

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EXAMINER
VANORE, DAVID A

ART UNIT	PAPER NUMBER
2881	

DATE MAILED: 05/10/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/591,565	Applicant(s) KATO, YOICHI	
	Examiner David A Vanore	Art Unit 2881	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 January 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 June 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,3 .
4) ☒ Interview Summary (PTO-413) Paper No(s). 7 .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

The Office Action mailed on November 7, 2001 is withdrawn because the Preliminary Amendment, entered March 12, 2002, was not received prior to initial examination of the pending claims. Claims 1-20 have been examined in this Office Action.

Specification

Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:
(1) if a machine or apparatus, its organization and operation;
(2) if an article, its method of making;
(3) if a chemical compound, its identity and use;
(4) if a mixture, its ingredients;
(5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

The abstract of the disclosure is objected to because it states that the device is "capable" of a function. Speculation as to function in the abstract is not allowed.

Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3 and 4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant claims an electrode formed with an acute angle in claim 3, but fails to claim with respect to what element the angle is formed.

Claims 18 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "can" in claim 18 line 2 and claim 20 line 2 is a relative term which renders the claim indefinite. The term "can" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Stating that a power supply "can" provide 5 kV of DC voltage fails to point out and distinctly limit the capabilities of the device.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 17 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Dagenhart.

Dagenhart teaches a device and method of an ion source comprising a DC power supply (Fig. 1 Item V sub E), a discharge electrode (Fig. 1 Item 103), and a resistor (Fig. 1 Item R adjacent Item 17) wherein said resistor is operatively connected between said electrode and a power source to restrict electron flow (Col. 5 Line 15-20).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2-16 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dagenhart.

In regards to claim 2, Dagenhart teaches all limitations as applied above but fails to teach the use of high voltage wiring. It would have been obvious to one having ordinary skill in the art at the time the invention was made to connect elements in an ion source with high voltage wiring because the use of high voltage wiring is conventional in the art.

In regards to claims 3 and 4, Dagenhart teaches all limitations as applied above but fails to teach a needle electrode formed at an angle. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a needle electrode formed at an angle because the use of any of a plurality of differently shaped electrodes is well known in the art and the forming of an electrode at an angle is not germane to the issue of patentability of the device itself. Therefore, the limitation of the needle electrode formed at a distal end of the apparatus with an acute angle has not been given patentable weight.

In regards to claims 5-8, Dagenhart teaches all limitations as applied above but fails to teach the varying of the resistance of a resistor to control ion emission. It would have been obvious to one having ordinary skill in the art at the time the invention was made to vary the current flowing to an electrode to control the rate of ion emission because it is well known in the art that ion emission is proportional to the current supplied to an emitter electrode.

In regards to claims 9-16, Dagenhart teaches all limitations as applied above but fails to teach plural electrodes and a distributor. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide plural electrodes, since it has been held that mere duplication of essential working parts of a device only involves routine skill in the art. St. Regis Paper Co. v. Bemis Co., 193 USPQ 8.

In regards to the distributor, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a means of distributing

power to the plural electrodes addressed above because such a power supply means is well known and inherent in a device having plural duplicated electrical elements.

Regarding claims 18-20, Dagnehart teaches all limitations as cited above, but fails to teach a resistance section comprising carbon having a resistance of twenty Ohms.

Carbon is one of a selection of materials having the property of resistance.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to select carbon as a resistor and to select any of a plurality of resistance values because one skilled in the art would select a resistor based on the amount of current desired and because carbon is well known as an element for use as a resistor in electrical devices. See US Patent 3,742,423 (Chadwick).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patent 6,138,606, US Patent 4,591,753, US Patent 3,617,740, US Patent 3,967,150, and US Patent 4,847,476 teach the relative state of the prior art of electron and ion emitters.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David A Vanore whose telephone number is 703-306-0246. The examiner can normally be reached on M-F 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Lee can be reached on 703-308-4116. The fax phone numbers for

the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7721 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-9797.

dav
April 30, 2002

JOHN R. LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800